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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/770,488	02/04/2004	Declan Reilly	30021072-02	1940
57299	7590	05/13/2009		
Kathy Manke Avago Technologies Limited 4380 Ziegler Road Fort Collins, CO 80525			EXAMINER THOMAS, BRANDIN	
			ART UNIT 2873	PAPER NUMBER
			NOTIFICATION DATE 05/13/2009	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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### Office Action Summary

**Application No.**

10/770,488

**Applicant(s)**

REILLY ET AL.

**Examiner**

BRANDI N. THOMAS

**Art Unit**

2873

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 1/22/09.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagata et al. (2003/0076766 A1) in view of Minott (4444464).

Regarding claims 1 and 15, Nagata et al. discloses, in figures 6A-6E, a beam splitter apparatus comprising: a first beam splitter mount (21) and a second beam splitter mount (22), the first beam splitter mount (21) being coupled to the second beam splitter mount (22) (figures 6C and 6D) the beam splitter apparatus being arranged so that, in use, a force applied to the second beam splitter mount (22) causes the second beam splitter mount (22) to turn relative to the first beam splitter mount (21) (section 0128). However, Nagata et al. does not disclose the first and second beam splitter mounts joined to each by a deformable connection. Minott discloses the use of a deformable (rigid) connection between two optical components (col. 4, lines 19-20). It would have been obvious to one having ordinary skill in the art at the time of the invention to combine the device of Nagata et al. with the deformable connection of Minott for the purpose of assuring the maintenance of precise band-to-band alignment (col. 4, lines 19-20). With regard to applicant's submission of the claimed limitation "in use", it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not

differentiated the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations (Ex parte Mashim, 2 USPQ2d 1647 (1987)).

Regarding claim 2, Nagata et al. discloses, in figures 6A-6E, a beam splitter apparatus but does not specifically disclose wherein the second beam splitter mount is arranged to turn relative to the first beam splitter mount in response to flexing of the deformable connection. Curbelo discloses wherein the second beam splitter mount (32) is arranged to turn relative to the first beam splitter mount (30) in response to flexing of the deformable connection (col. 7, lines 60-64). Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to combine the device of Nagata et al. with the connection of Curbelo for the purpose of tilting the beamsplitter so that the upper beam has an incident angle to the left of the uncoated portion of the rectangular glass of fifty degrees (col. 7, lines 60-64).

3. Claims 3, 4, 6-10, 12-14, and 16-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagata et al. (2003/0076766 A1) in view of Minott (4444464) and further in view of Curbelo (5671047).

Regarding claims 3, 4, 9, 10, 16, and 17, Nagata et al. discloses, in figures 6A-6E, a beam splitter apparatus but does not specifically disclose wherein the second beam splitter mount is arranged to turn relative to the first beam splitter mount through an angle of ten degrees or less. Curbelo discloses wherein the second beam splitter mount (32) is arranged to turn relative to the first beam splitter mount (30) through an angle of ten degrees or less (col. 7, lines 60-64). Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to combine the device of Nagata et al. with the connection of Curbelo for the purpose

of tilting the beamsplitter so that the upper beam has an incident angle to the left of the uncoated portion of the rectangular glass of fifty degrees (col. 7, lines 60-64).

Regarding claims 6 and 12, Nagata et al. discloses, in figures 6A-6E, a beam splitter apparatus, but does not specifically disclose wherein the beam splitter apparatus comprises Kovar. It would have been obvious to modify the invention to include wherein the beam splitter apparatus comprises Kovar, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use (In re Leshin, 125 USPQ 416). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention to include wherein the beam splitter apparatus comprises Kovar for the purpose of its ability to be compatible with thermal expansion of a structure.

Regarding claims 7, 8, 13, and 14, Nagata et al. discloses, in figures 6A-6E, a beam splitter apparatus, wherein the beam splitter apparatus further comprises a first beam splitter mounted in the first beam splitter mount (21) and a second beam splitter mounted in the second beam splitter mount (22) (section 0128), the beam splitter apparatus, in use, being arranged such that the first beam splitter (beam splitter mounted on mount 21) and the second beam splitter (beam splitter mounted on mount 22) receive optical energy emitted by an optical source (sections 0128-0130).

Regarding claims 18-20, Nagata et al. discloses, in figures 6A-6E, a beam splitter apparatus, wherein the beam splitter deflects another portion of the beam incident on it and is not incident on the beam deflector, further comprising indicating powering the beam incident on the

splitter by measuring power in the beam deflected by the splitter (sections 0128-0130 and 0239).

Regarding claim 21, Nagata et al. discloses, in figures 6A-6E, a beam splitter apparatus, wherein the deflector is a second beam splitter (mounted on beam splitter mount (22) (section 0128).

4. Claims 5 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagata et al. (2003/0076766 A1) in view of Minott (4444464) in view of Curbelo (5671047) as applied to claim 1 above, and further in view of Zhao (2001/0053024 A1).

Regarding claims 5 and 11, Nagata et al. discloses, in figures 6A-6E, a beam splitter apparatus, but does not specifically disclose wherein the beam splitter apparatus comprises a material having a coefficient of thermal expansion of 8ppm/K or less. Zhao discloses wherein the beam splitter apparatus comprises a material having a low coefficient of thermal expansion (section 0078) but does not specifically disclose the coefficient being 8ppm/K or less, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum range or workable ranges involves only routine skill in the art (In re Aller, 105 USPQ 233).. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention to include wherein the beam splitter apparatus comprises a material having a coefficient of thermal expansion of 8ppm/K or less for the purpose of minimizing stresses during thermal cycling.

***Response to Arguments***

5. Applicant's arguments filed 1/22/09 have been fully considered but they are not persuasive. The applicant argues that claims 1 and 15 require at least a first beam splitter mount being coupled to the second beam splitter mount by a deformable connection. Neither Nagata nor Minott teach or suggest either individually or in combination a first beam splitter mount being coupled to a second beam splitter mount by a deformable connection. However, by the applicant's own admission, page 1, line 30- page 2, line 1, of specification, applicant defines a deformable connection as one that is sufficiently rigid. Minott discloses a rigid connection between the spherical mirrors (col. 4, lines 19-20). Thus the claimed limitation is disclosed and the rejection is maintained.

***Conclusion***

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRANDI N. THOMAS whose telephone number is (571)272-2341. The examiner can normally be reached on Monday - Thursday from 6-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Mack can be reached on 571-272-2333. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Brandi N Thomas/  
Examiner  
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BNT

/Ricky L. Mack/  
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